



# PASPCR

## Newsletter

Volume 3 Number 1

March, 1995

### Introduction . . .

by the Publications Committee

The **PASPCR Newsletter** is published quarterly and is intended to serve as a means of communication for the members of our Society. As such, we invite our membership to actively contribute to the *Newsletter*; help us to update the Job Listings, Calendar of Events, Meeting Reports, Abstracts in press and other items of general membership interest. If you attend a scientific meeting at which you heard about work which you think will be of interest to the membership of the **PASPCR**, please write a few paragraphs summarizing what was presented and share it with us. If you should have a change of affiliation or address, we'd like to know that, too. This is your *Newsletter*, and we depend upon you to help us make sure it best serves the Society's needs. Contributions and comments can be sent to any of the members of the Publications Committee.

The Publications Committee wants to make collaboration between members of the Society as easy as possible and toward that goal we are encouraging the use of E-mail and other forms of electronic communications. We encourage everyone who has an E-mail address to forward it to the Publications Committee. The Publications Committee is willing to help any member of the PASPCR get you in touch with the individuals who can set up your E-mail account and to some extent will help you get started.

The **PASPCR** has a Gopher server that can be found from your home Gopher under "International Organizations" as "PanAmerican Society for Pigment Cell Research (PASPCR)". Here you have access to past PASPCR Newsletters, the current ByLaws and membership list. We are currently working with the IFPCS to develop a list of resources available to PASPCR members. This list will include cell lines, antibodies, coat color mutants and other items of interest to pigment researchers. If you have any other ideas for items to be placed on Gopher, please contact someone on the Newsletter Publishing Committee.

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enclosures: IFPCS DataBase Form  
IPCC Proceedings Order Form



**PanAmerican Society for  
Pigment Cell Research**

c/o **Dr. Richard King**  
Department of Medicine  
University of Minnesota  
516 Delaware St, SE  
Minneapolis, MN 55455  
FAX: (612) 624-6645

**Officers**

Vincent J. Hearing  
*President*  
Sally Frost-Mason  
*President-Elect*  
Richard A. King  
*Secretary/Treasurer*

**Council Members**

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William S. Oetting  
Seth J. Orlow  
Dewayne Townsend  
Walter C. Quevedo, Jr.

**IFPCS Representative**

James Nordlund  
*Past-President*

The **PASPCR Newsletter** is published quarterly; for further information and/or to submit articles, contact the Publications Committee:

**Dr. William S. Oetting (chair)**

University of Minnesota  
16-262 Moos Tower  
515 Delaware St., S.E.  
Minneapolis, MN 55455-0311  
FAX: (612) 626-4027  
E-mail: BILL@LENTI.MED.UMN.EDU

**Dr. Alan N. Houghton**

Memorial Sloan-Kettering Cancer Center  
Chief, Clinical Immunology Service  
1275 York Avenue  
New York, NY 10021  
FAX: (212) 717-3036

**Dr. Walter C. Quevedo, Jr.**

Brown University  
Division of Biology and Medicine  
Box G  
Providence, RI 02912  
FAX: (401) 863-1971

**Calendar of Events :**

**Mar 18 - 22, 1995** Annual Meeting of the American Association for Cancer Research, to be held in Toronto, Canada (contact: AACR National Office, FAX: 215/440-9313)

**May 10 - 12, 1995** Melanoma '95, to be held in Brighton, United Kingdom (contact: Dr N Kirkham, Coordinators Office, 14A Ship Street, Brighton BN1 1AD, East Sussex, United Kingdom, FAX: 44/273-323882)

**May 24 - 28, 1995** 56<sup>th</sup> Annual Meeting of the Society for Investigative Dermatology, to be held in Chicago, Illinois (contact: SID, Suite 500A, 11001 Cedar Ave, Cleveland, OH 44106, FAX: 216/844-6810)

**June 25 - 28, 1995** VI<sup>th</sup> PASPCR Annual Meeting, to be held in Kansas City, Kansas, (contact: Dr Sally Frost-Mason, Department of Physiology, University of Kansas, 3038 Hayworth Hall, Lawrence, KS 66046-2106, FAX: 913/864-5321)

**Jul 11 - 15, 1995** 44<sup>th</sup> Annual Symp on the Biology of Skin, to be held in Snowmass Village, CO (contact: Cutaneous Biology Foundation, 4200 E 9<sup>th</sup> Ave, UCHSC Box B 144, Denver, CO 80262; FAX: 303/270-8272)

**Oct 29- Nov 3, 1996** XVI<sup>th</sup> International Pigment Cell Conference, to be held in Anaheim, California, (contact: MMC/UCI Center for Health Education, PO Box 1428, Long Beach, CA 90801-1428, FAX: 310/933-2012)

**Jun 15- 18, 1997** VII<sup>th</sup> PASPCR Annual Meeting, to be held in Providence, RI (contact: Dr. Walter C Quevedo, Jr., Brown University, Division of Biology and Medicine, Providence, RI 02912; FAX: 401/863-1971)

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## Welcome to New Members

by Richard A King

We welcome the following new members to the PASPCR . . . .

Gregory J. Kramer  
George L. Wolff

Shosuke Ito

Masayoshi Tachibana

If anyone is interested in joining our Society or wishes to sponsor a member, application forms can be obtained from Dr. Richard King at the PASPCR Secretary/Treasurer's office.

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## Corporate Sponsors

by Richard A King

The PASPCR would like to acknowledge and thank our Corporate Sponsors; the list below reflects contributions over the past 2 years. Financial gifts from these sponsors have allowed our Society to increase benefits to the membership far out of proportion to the actual dues collected from members. Monies contributed by these sponsors have been used over the years to support various PASPCR functions including our Young Investigator Award program, meeting travel stipends, annual meeting expenses and this Newsletter.

### *GOLD Sponsors*

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### *BRONZE Sponsors*

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## 1994 PASPCR Council Election Results

by Richard A King

The following members were elected to 3 year terms as Council Members beginning January 1, 1995.

Alan N. Houghton

William S. Oetting

Walter C. Quevedo, Jr.

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## 1995 PASPCR VI<sup>th</sup> Annual Meeting Site :

by Sally Frost-Mason

### Update - Sixth Meeting of the PASPCR, June 25-28, 1995, Kansas City, MO

Plans continue to evolve for the Sixth Meeting of the PASPCR. First announcements were mailed out in October, and response thus far has been strong, with many requests for additional information having been received by the planning committee. If you did not receive a first announcement and would like more information about these meetings please contact Sally Frost-Mason at (913)864-3661, FAX (913)864-5331, or email: [sfm@clasmain.clas.ukans.edu](mailto:sfm@clasmain.clas.ukans.edu).

The scientific program for these meetings will be highlighted by keynote talks by Roger Cone, Garth Nicholson, and Shirley Tilghman. Symposia complementing each of the research areas addressed by the keynote speakers are being organized, and minisymposia on a variety of subjects are also planned. There will be posters with ample time for display and discussion and many opportunities for informal interactions at these meetings.

The meetings will be held at the Ritz-Carlton Hotel on the Country Club Plaza in Kansas City, Missouri. This elegant hotel is within walking distance of many fine restaurants, shops, and museums, so participants should be encouraged to bring family and friends to enjoy the festivities.

Planned activities will begin Sunday evening with a poolside reception at the Ritz. On Monday evening come prepared to join the fun as we will be heading out to the Benjamin Ranch on the outskirts of KC. There we will be treated to a meal including barbecue chicken, pork ribs, and beef brisket with a selection of KC's finest barbecue sauces. After dinner we can all unwind to country western and contemporary music and dancing and, for those who are not experienced at this, a dance instructor will be on hand to help us all line dance. Not a dancer? Not to worry! You can try your hand at steer roping on the steel horse or the cow chip toss (using the "real thing"). A gypsy fortune teller will be on hand to predict your chances on that next grant renewal! The bar will be open all evening. The atmosphere at the ranch is relaxed and casual, and if you own cowboy boots don't forget to bring them along.

Tuesday evening you may wish to go on a Kansas City Jazz Pub Crawl and experience jazz at its finest at three of the local establishments famous for their live entertainment. Or perhaps you would like to spend an evening on a riverboat gambling. Or maybe at the end of two long days you'll choose a relaxing evening in one of Kansas City's fine restaurants and bars located on the Plaza near the Ritz.

Whatever your preference, we hope you will join us in Kansas City in June. The science should be superb and the activities are bound to be fun!

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## **XVI<sup>th</sup> IPCC (International Pigment Cell Conference)**

**by Roger Bowers, Frank Meyskens**

The XVI<sup>th</sup> International Pigment Cell Conference will be held from October 29<sup>th</sup> to November 3<sup>rd</sup>, 1996 at the Disneyland Hotel in Anaheim, California. Frank Meyskens is the Organizer of this meeting with Roger Bowers and Alistair Cochran serving as co-chairs of the Organizing Committee. More information regarding this meeting (and its interesting venue) will be forthcoming in future Newsletters and in separate mailings. Dr. Meyskens has asked that the following announcements be included in our Newsletter.

**Satellite Conferences:** No satellite conferences will be supported by the local organizing committee that are held within the time frame of the XVI<sup>th</sup> International Pigment Cell Conference, Tuesday, October 29, 1996; 6:00 pm to Sunday, November 3, 1996; 8:00 am. There are a wide number of venues possible to hold small or large satellite conferences either before or after the main pigment cell meeting. Our Memorial/UCI Educational Foundation will be happy to work with you in planning, for a small fee, and we request that we be notified of the intent of any satellite conference no later than June 1, 1995. If we are notified later than this date, accommodations and planning availability cannot be guaranteed.

**Competitive Stipend for Travel Support:** The Organizing Committee will provide funds in a competitive manner for graduate students, post-doctoral fellows and those within five years of formal academic appointment. The number of stipends will depend on the availability of funds and further information will become available during the second and subsequent informational mailings.

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## **1997 VII<sup>th</sup> PASPCR Meeting Site**

**by Vincent Hearing / Richard King**

The VII<sup>th</sup> Annual Meeting of the **PASPCR** will be held in Providence, RI in June, 1997 with Walter C. Quevedo, Jr. as the Organizer, with Harold Swartz as the co-chair of the Organizing Committee. Further information will be forthcoming for that meeting as it becomes available.

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## **PASPCR Secretary / Treasurer's Report :**

**by Richard A King**

Following is a synopsis of the PASPCR Council Meeting held by teleconference on October 27, 1994 . . .

Hearing opened the meeting and a quorum was declared present. The minutes of the June 26, 1994, Council meeting were accepted. King gave the treasurer's report. There were 137 current members of the PASPCR including 111 renewal and 26 new memberships for 1994. The travel award stipends for the 1994 meeting totaled \$4,414. The total amount of travel stipends over the period 1989 - 1994 is \$17,489.

Frost-Mason gave the Nominating Committee report. The 1996 elections will include the offices of President and Secretary-Treasurer as well as 3 Council members. Townsend gave the Publication Committee report. He stated that there were four responses to the postcards that were mailed to the members requesting information for the last newsletter, and the total cost for this was \$30. Pawelek gave the Membership Committee report. A draft of a PASPCR brochure would be available soon. Frost-Mason for the Awards Committee invited all members of the Council to submit nominations for 1996 Honorary Membership and Career Achievement Award.

Frost-Mason reviewed the preparations for the 1995 PASPCR meeting to be held Kansas City. The first announcement has been distributed to the PASPCR, ESPCR, JSPCR and other individuals and societies. Further information will be available in the December newsletter. Bowers reviewed the preparation for the 1996 IPCC meeting to be held in Anaheim. The planning committee will meet in January, 1995, and arrangements will be made to include the representatives from the various regional societies. R. Boissy and S. Orlow would be the PASPCR representatives to the 1996 IPCC Program Committee and S. Frost-Mason and R. King would be the PASPCR representative to the 1996 IPCC International Planning Committee. The scientific agenda will include such topics as molecular biology; photo biology; melanin, society and economy; melanoma, melanin and pigmentation diseases and comparative biology. Financial support is being developed for this meeting. Hearing noted that W. Quevedo and H. Swartz have expressed interest in hosting the 1997 meeting in Providence, Rhode Island, and D. Norris has suggested that he would host the meeting in Denver in 1998.

Hearing presented a proposed Rule & Regulation for guidelines for PASPCR sponsorship of outside scientific meetings: 1) that the meeting under consideration is in full accordance with the aims and scope of the PASPCR and is intended to foster scientific goals; 2) that the meeting is a bonafide scientific meeting with an independent program committee; 3) that the meeting will be held at a satisfactory venue and the date that does not compete with PASPCR sponsored events, and 4) that the meeting organizers have sufficient financial resources to host the meeting. This was unanimously accepted.

A Rule & Regulation for Emeritus Membership was proposed: (1) A member is eligible for Emeritus Membership if he/she is fully retired and was an active regular member of the PASPCR for the preceding 5 years. (2) the application must be submitted to and approved by the council. (3) the Emeritus Members will have full voting rights and will be eligible for elected office and the various appropriate PASPCR awards and (4) the Emeritus members will pay annual dues that represent 25% of the regular annual dues. This was unanimously accepted.

An amendment to Rule & Regulation #4 that would detail the mechanism for selecting the Young Investigator Awards was proposed: (1) a notice of the Young Investigator Awards be included in the call for abstracts; (2) the nomination for an award will be made at the time of abstract submission; (3) the nominees must present their abstract at the annual meeting to be eligible for an award; (4) the selection of the award will be made by anonymous committee appointed by the secretary-treasurer; and (5) that the Young Investigator Award will be announced at the membership business meeting of the PASPCR. There was concern that this amendment would limit the possibility of giving an award to a young investigator who had not applied for it but had given an outstanding presentation at the annual meeting. There was also concern about the mechanism that would notify all potential candidates of the Young Investigator Award. Frost-Mason suggested the Rule & Regulation could be approved on a provisional basis for a one year trial, and this was unanimously accepted.

The minutes have been prepared by R. King, Secretary-Treasurer

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**Meeting Report :**

by Koichiro Kameyama

**9<sup>th</sup> Annual Meeting of the Japanese Society for Pigment Cell Research  
Tokyo, Japan December 9-10, 1994**

The 9<sup>th</sup> JSPCR meeting was held at the Nihon Kaiun Club in Tokyo. The meeting was organized by the Department of Dermatology, Nihon University School of Medicine with Prof. T. Morishima as Chairman and Dr. Z. Yamaguchi as Secretary. The meeting was filled with so much hospitality, and all participants enjoyed not only an exciting meeting but also a gorgeous buffet. The meeting was composed by one special lecture given by Prof. K. Jimbow, three seminars and 38 papers.

**Special Lecture "Melanogenesis as a cascade of events"**

Dr. K. Jimbow discussed the interaction of melanosomal glycoproteins such as tyrosinase, TRP1, TRP2 and lysosome-associated membrane protein-1 (LAMP1) in the melanogenic process. He mentioned that LAMP1 exists in the membrane of melanosomes and lysosomes. UV exposure upregulates tyrosinase, TRP1 and LAMP1. Transfection of either tyrosinase or TRP1 does not increase the expression of LAMP1 in fibroblasts, whereas cotransfection of both tyrosinase and TRP1 increases the expression of LAMP1 in fibroblasts. He also mentioned that transfection of tyrosinase only in COS cells caused the vacuolation in the cells, but cotransfection of tyrosinase and TRP1 causes melanin production without vacuolation. Therefore he mentioned the possibility that TRP1 may be involved in the prevention of programmed cell death of melanocytes during melanogenesis through upregulation of LAMP1. He also mentioned the possibility that calnexin was a chaperon necessary for the proper folding of melanosomal glycoproteins.

**Research Seminar "Recent advances in melanin research made by gene technology"**

Dr. S. Shibahara summarized the recent findings concerning the possible involvement of two novel proteins in the pigment cell specific transcription of the tyrosinase family genes: neurofibromin, a gene product responsible for neurofibromatosis type I (NF1) and a human homologue of the mouse gene associated with microphthalmia. He mentioned that NF1 is a tumor suppressor gene located on chromosome 17. He checked the effect of NF1 gene on MeWo cells which lack the NF1 gene. The results were that the NF1 gene activates the tyrosinase gene promoter. Then he mentioned that microphthalmia-associated transcription factor (MITF) increases the expression of the tyrosinase gene, and MITF is a key regulator for melanocyte-specific transcription of the tyrosinase gene. After his lecture, there was one interesting question which asked about mutations of the NF1 gene that cause NF1 associated with cafe au lait spots where melanin is increased. If NF1 gene activates the tyrosinase gene promoter, patients with NF1 should have depigmented spots on the skin. Dr. Shibahara answered that it was a really interesting question but to answer it, further study will be necessary.

**Melanin**

The meaning of 5,6-dihydroxyindole-2-carboxylic acid (DHICA) derived melanin has been in focus. The meaning has been estimated to concern the color of melanin or quality of melanin. Dr. H. Ozeki in Prof. S. Ito's group made a comparative study of melanins in various color mutants of mice by spectrophotometric and HPLC analysis. He studied the various coat color mutants of congenic mice: black, agouti, viable yellow, brown, albino, dilute black and pink-eyed black by the method of HPLC analysis using pyrrole-2,3,5-tricarboxylic acid (PTCA) and aminohydroxyphenylalanine (AHP) and various spectrophotometric assays. At first he compared the amounts of total melanin analyzed by HPLC method and spectrophotometric assay. The results showed that: 1) total melanin content analyzed by spectrophotometric assay correlated well with the melanin content calculated from PTCA and AHP methods; 2) viable yellow pigment was much more soluble in strong alkali than black eumelanin; 3) brown eumelanin was much more soluble in strong alkali than black eumelanin; 4) comparison of PTCA/total eumelanin ratios indicates the percentage content of DHICA-derived melanin in eumelanin, and the percentages are similar between black eumelanin and brown eumelanin, suggesting that the alkali solubility of brown eumelanin is not due to differences in the carboxy content but are due to differences in the molecular weight, i.e. the degree of polymerization of melanin. This result is further supported by the fact that the total eumelanin/total eumelanin + pheomelanin ratio was about half that of black melanin.

**Melanin metabolism**

Dr. K. Wakamatsu in Prof. Ito's group studied which is the better marker of melanin-related metabolism, 5-S-cysteinylDOPA (5-S-CD) or 6-hydroxy-5-methoxyindole-2-carboxylic acid (6H5MI2C)

as markers of melanoma progression. At first he checked the seasonal variation of serum 5-S-CD and 6H5MI2C values in 10 healthy Japanese every two months for two years. The results showed that 5-S-CD levels were higher in early summer and lower in early winter. However, the difference in the average levels (4 nmol/L in the two markers) was about two fold and no individual values exceeded the upper limit of the normal value, 10 nmol/L. A significant correlation ( $p < 0.02$ ) was observed between 5-S-CD and solar irradiation, and 6H5MI2C levels showed smaller variation as compared with 5-S-CD levels. No correlation was observed between 6H5MI2C levels and solar radiation. They also checked the stability of those two markers in whole blood and serum samples. 6H5MI2C was much more unstable than 5-S-CD in whole blood and serum at room temperature. They also found that serum 5-S-CD levels elevated significantly earlier and reflected melanoma progression better than 6H5MI2C and the clinical detection. On the other hand, serum 6H5MI2C did not increase until the final stage in most patients. Dr. Jimbow commented that 6H5MI2C is a better marker than 5-S-CD for melanoma patients in Canada, and 5-S-CD does not reflect melanogenesis since the level of 5-S-CD in patients with albinism showed normal levels.

### **Tyrosinase Related Proteins**

Dr. K. Urabe in Dr. Hearing's group cloned a cDNA encoding TRP2 from murine melanocytes using RT-PCR and studied its catalytic activity by transfection technique. Furthermore he generated an expression vector that contains the slaty mutation and examined the effects of this on the catalytic function of TRP2. He checked the effect on transfected cells and confirmed that the ability of murine TRP2 to function as DOPAchrome tautomerase and to demonstrate that the slaty mutation dramatically decreases that enzyme function. He also commented that the reason why slaty mice do not show black color which reflects DHI-derived melanin is that DHICA may be necessary for the polymerization of melanin.

Dr. H. Kondoh in Dr. Mishima's group checked the effect of transfection of TRP2 on human melanotic melanoma Ihara cells having low DOPAchrome tautomerase activity. He obtained melanoma cells which possess various degrees of DOPAchrome tautomerase activity, and compared the activity of DOPAchrome tautomerase, tyrosinase and melanogenesis among obtained transformants and parental cells. The results showed that the clones with higher DOPAchrome tautomerase/tyrosinase activity ratio contained higher amounts of DHICA-melanin, and increased melanogenesis was observed in clones having high DOPAchrome tautomerase activity with the same level of tyrosinase activity. From these findings he assumes that the modulation of eumelanin production is mainly performed in the DHICA-pathway which is regulated in turn by DOPAchrome tautomerase activity within pigment cells which possess the same level of tyrosinase activity.

### **Melanogenic Inhibitor**

Dr. K. Kameyama reported the effect of oil-soluble licorice extract (P-TH) which contains 20% grablidin on melanogenesis. P-TH is a mixture of flavonoids and unknown substances.  $10^{-3}$  mg/ml or  $10^{-4}$  mg/ml licorice extract suppressed melanin formation 20% or 69% respectively by purified tyrosinase. P-TH also suppressed melanin formation on cultured human melanoma Ihara cells, mouse B16 F10 cells and transformed murine melanocyte melan-a cells. Unexpectedly P-TH increased TRP1 activity (DHICA oxidase) approximately 20% in B16 F10 cells, but decreased approximately 70% of both TRP2 activity and spontaneous conversion of DOPAchrome to 5,6-dihydroxyindole on Ihara cells. To know the effect of P-TH on those melanogenic enzymes, radioimmunoprecipitation was performed.  $10^{-2}$  mg/ml P-TH suppressed the synthesis rates of highly glycosylated melanosomal glycoproteins tyrosinase, TRP1 and TRP2, but did not suppress the melanosomal matrix Pmel17/silver locus protein. Furthermore the band of tyrosinase, TRP1 and TRP2 on immunoprecipitation was shifted to lower molecular weight. These findings suggest that P-TH suppressed the synthesis rate of those tyrosinase gene family members by inhibition of glycosylation. P-TH was effective on 20 out of 36 patients with hyperpigmented diseases such as chloasma. These findings clearly indicated that P-TH application can be useful for patients with hyperpigmented diseases, and the reason why P-TH suppressed melanogenesis at several steps is that P-TH is a mixture of flavonoids.

### **Cytokines**

Dr. Y. Yada of Dr. Imokawa's group studied the effect of fibroblast-derived factors on the proliferation of human melanocytes (HMC). DNA synthesis of HMC was significantly stimulated by human fibroblast (HFB) conditioned medium. The stimulatory effect was significantly higher in the conditioned medium from old age-derived fibroblasts (OFB) than that from young age fibroblasts (YFB). Analysis of released factors in the conditioned medium revealed that stem cell factor (SCF) significantly increased in OFB conditioned medium as compared to YFB. In contrast, basic fibroblast growth factor (bFGF) did not differ. In addition, the secretion of hepatocyte growth factor (HGF) was



markedly increased when IL-1 was added to the culture medium. The DNA synthesis rates of HMC were decreased when anti-HGF, SCF and bFGF antibodies were added to the conditioned medium. Therefore they assume that SCF and HGF may be involved in cutaneous pigmentation during the aging process. There was a question regarding whether the effect of those cytokines on HMC DNA synthesis increased cell number or melanin production. The answer is that the number of HMC was much increased and the melanin production was slightly decreased.

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### **Members in the News**

**Kowichi Jimbow**, presented the keynote lecture at the 9<sup>th</sup> Annual Meeting of the JSPCR (cf Meeting Report above); the title of his lecture was "Melanogenesis as a Cascade of Events"

**Yutaka Mishima**, his family and colleagues, survived the recent devastating earthquake that hit Kobe so hard. All the coworkers at Prof. Mishima's Institute are safe, as are our colleagues at the Dermatology Department at Kobe University, although there has been serious damage to their homes and research facilities. At the suggestion of Drs. King and Quevedo, we have offered the assistance of the PASPCR to help them resupply scientific resources that may have been lost and further information will be forthcoming in a future Newsletter.

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### **Positions - Wanted and Available :**

Opportunity available to do graduate studies towards a doctoral degree at the University of Cincinnati College of Medicine. Graduate program is through the Department of Cell Biology, Neurobiology, & Anatomy. Dissertation project would focus on molecular biology of the melanocyte physiology and pigmentary diseases. For information contact: Raymond E. Boissy, Ph.D., Department of Dermatology, University of Cincinnati College of Medicine, 231 Bethesda Avenue ML-592, Cincinnati, Ohio 45267-0592; (513)558-6242 [TEL]; (513)558-0198 [FAX]; boissyre@ucbeh.san.uc.edu [eMAIL].

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### **INTERPIG Update :**

The INTERPIG database is underway! Entries have been drifting in from members of the ESPCR, JSPCR and PASPCR listing their various reagents, cDNAs, antibodies, cell lines and other research materials that are useful to pigment cell researchers. A copy of the database entry sheet is enclosed again in this Newsletter and please take a moment to fill out that form with any items that you have developed over the past years that would be useful to other researchers in the field. Later this year we will be providing printouts of those items entered - the usefulness of this database depends entirely upon the willingness of all of us to take the time to input our data into the database. Kudos to Lynn Lamoreux for being the first from our Society to submit a data entry form, and to Kowichi Jimbow and Vincent Hearing who have followed suit. Please take a moment to fill out your entries today. Mail or FAX them to V Hearing at the address listed on the form.

## Bibliography :

The Bibliography published in this issue covers the period November, 1994 through January, 1995. If you notice a paper that was not detected by this search that should be included, please send it to us and we will include it in the next issue. We have attempted to highlight any publications which include a member of the PASPCR with a star.

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## Current PASPCR Members

### Zalfa A. Abdel-Malek Ph.D.

University of Cincinnati  
Department of Dermatology  
231 Bethesda Avenue, Mail #592  
Cincinnati, OH 45267  
Phone: 513/558-6242  
FAX: 513/558-1098

### Ago B. Ahene Ph.D.

Syntex Discovery Research  
3401 Hillview Avenue, A3-298  
Palo Alto, CA 94303  
Phone: 415/855-5290  
FAX: 415/354-7335  
E-Mail: ago,ahene@synmail.syntex.com

### Lisa M. Austin M.S.

University of Cincinnati  
Department of Dermatology  
231 Bethesda Ave.  
Cincinnati, OH 45267-0592  
Phone: 513/558-6242  
FAX: 513/558-0198  
E-Mail: austinlm@ucbeh.san.uc.edu

### Joseph T. Bagnara Ph.D.

University of Arizona - Anatomy  
College of Medicine  
Tucson, AZ 85724  
Phone: 602/621-7516  
FAX: 602/621-9339

### Diane Barker B.A.

University of Cincinnati  
Department of Dermatology  
231 Bethesda Ave.  
Cincinnati, OH 45267-0592  
Phone: 513/558-6251  
FAX: 513/558-0198

### Gregory Barsh M.D., Ph.D.

Howard Hughes Medical Institute  
Stanford University School of Medicine  
Beckman Center, B271  
Stanford, CA 94305  
Phone: 415/723-5061  
FAX: 415/723-1399

### Jag Bhawan M.D.

Boston Univ School of Medicine  
Department of Dermatology  
609 Albany Street, Room 309  
Boston, MA 02118  
Phone: 617/638-5570  
FAX: 617/638-5515

### Karen E Bijwaard Ph.D.

Georgetown University  
Department of Pathology  
3900 Reservoir Road, NW  
Washington, DC 20007  
Phone: 202/687-1126  
FAX: 202/687-8935

### Markus Boehm M.D.

Yale University School of Medicine  
Department of Dermatology  
500 LCI. P.O. Box 208059  
New Haven, CT 06520  
Phone: 203/785-4970  
FAX: 203/785-7636

### Raymond E. Boissy Ph.D.

University of Cincinnati  
Department of Dermatology  
231 Bethesda Avenue, Mail #592  
Cincinnati, OH 45267  
Phone: 513/558-6242  
FAX: 513/558-0198  
E-Mail: raymond.boissy@uc.edu

### Jean L. Bologna M.D.

Yale Medical School  
Department of Dermatology  
333 Cedar Street  
New Haven, CT 06510  
Phone: 203/785-4092  
FAX: 203/785-7637

### Frédéric Bonté Ph.D.

LVMH Recherche  
25 rue des peupliers  
92703 Nanterre cedex, France  
Phone: 33-1/41-197-621  
FAX: 33-1/47-691-672

### Roger R. Bowers Ph.D.

California State Univ. Los Angeles  
Department of Biology  
5151 State University Drive  
Los Angeles, CA 90032  
Phone: 213/343-2081  
FAX: 213/343-6451

### Murray H. Brilliant Ph.D.

Fox Chase Cancer Center  
Institute for Cancer Research  
7701 Burholme Avenue  
Philadelphia, PA 19111  
Phone: 215/728-2864  
FAX: 215/728-3616  
E-Mail: brilliant@mhb.pink.fccc.edu

**Jean B. Burnett Ph.D.**

P.O. Box 805  
Okemos, MI 48805-0805

**Jean-Claude Bystryn M.D.**

New York Univ Medical Center  
Department of Dermatology  
550 First Avenue  
New York, NY 10016  
Phone: 212/263-5243  
FAX: 212/263-8561

**Ana M. Castrucci Ph.D.**

Institute of Biosciences  
University of Sao Paulo CP 11176  
Sao Paulo, SP 05422-900, Brazil  
Phone: 55-11/818-7523  
FAX: 55-11/818-7422  
E-Mail: amdcast@cce.usp.br

**Catherine Causse**

L'Oreal  
Lab de Recherche Fondementale  
1, Avenue Eugene Schueller  
93601 Aulnay-Sous-Bois Cedex, France  
Phone: 33-47/567-735

**Miles R. Chedekel Ph.D.**

MeL-CO  
4255 County Road MM  
Orland, CA 95963  
Phone: 916/865-9033  
FAX: 916/865-4092

**Alistair J. Cochran M.D.**

UCLA Medical Center  
Departmentt of Pathology  
13-344 CHS  
Los Angeles, CA 90024-1732  
Phone: 213/825-2743  
FAX: 213/206-5178  
E-  
mail:acochran@pathology.medsch.ucla.edu

**Roger D. Cone Ph.D.**

Oregon Health Sciences University  
Vollum Institute  
3181 S.W. Sam Jackson Park Road  
Portland, OR 97201  
Phone: 503/494-4668  
FAX: 503/494-4534

**Tricia Cooley B.S.**

University of Kansas  
Dept of Physiology & Cell Biology  
Haworth Hall  
Lawrence, KS 66045  
Phone: 913/864-4279

E-mail: cooley@falcon.cc.ukans.edu

**Mark E. Costlow Ph.D.**

Schering-Plough Corporation  
Advanced Products Research  
3030 Jackson Avenue  
Memphis, TN 38151  
Phone: 901/320-5028  
FAX: 901/320-5526

**Mary K. Cullen M.D.**

Washington University School of Medicine  
Departments of Cell Biology &  
Dermatology  
660 South Euclid, Box 8228  
St. Louis, MO 63130  
Phone: 314/362-1082  
FAX: 314/362-7463  
E-mail: mkcullen@cellbio.wustl.edu

**John O. DeJordy M.D.**

Royal Victoria Hospital  
Department of Dermatology  
687 Avenue des Pins Quest  
Montreal, H3A 1A1, Canada  
Phone: 514/842-1231 ext. 4650  
FAX: 514/982-0686  
E-Mail: dejordy@rclvax.medcor.mc gill.ca

**Phillipe Donatien Ph.D.**

New York University Medical Center  
Department of Dermatology  
550 First Avenue  
New York, NY 10016  
Phone: 212/263-5070  
FAX: 212/263-8752

**Donna-Gay Durham-Pierre Ph.D.**

Fox Chase Cancer Center  
Fox Chase Cancer Research  
7701 Burholme Avenue  
Philadelphia, PA 19111  
Phone: 215/728-2865  
FAX: 215/728-3616

**Magdalena Eisinger D.V.M.**

American Cyanamid Co.  
Department of Cell Biology  
Building 205, Room 3113  
Pearl River, NY 10965  
Phone: 914/732-4495  
FAX: 914/732-5536

**David E. Elder M.D.**

University of Pennsylvania  
Department of Anatomic Pathology  
3400 Spruce Street  
Philadelphia, PA 19104  
Phone: 215/662-6503

FAX: 215/349-5910  
E-mail: david-elder@pathla.upenn.edu

**Maria Fargnoli M.D.**

Yale University School of Medicine  
Department of Dermatology  
33 Cedar Street  
New Haven, CT 06525  
Phone: 203/785-3078  
FAX: 203/785-7637

**Philip J. Fernandez Ph.D.**

Department of Natural Sciences  
Grand Canyon University  
3300 W. Cambelback Road  
Phoenix, AZ 85017  
Phone: 602/589-2575  
FAX: 602/589-2895

**Thomas G. Froiland Ph.D.**

Northern Michigan University  
Department of Biology  
277 W. Science  
Marquette, MI 49855  
Phone: 906/227-2310  
FAX: 906/227-2013

**Sally K. Frost-Mason Ph.D.**

3038 Hayworth Hall  
University of Kansas  
Dept. of Physiology & Cell Biology  
Lawrence, KS 66045-2106  
Phone: 913/864-3296  
FAX: 913/864-5321  
E-Mail: sfm@clasmain.clas.ukans.edu

**Bryan B. Fuller Ph.D.**

Univ. of Oklahoma Health Sciences Center  
Dept. of Biochemistry & Molecular Biology  
P.O. Box 26901  
Oklahoma City, OK 26901  
Phone: 405/271-2160  
FAX: 405/271-3139  
Email: bryan-fuller@uokhsc.edu

**John M. Gardner Ph.D.**

Fox Chase Cancer Center  
Institute for Cancer Research  
7701 Burholme Avenue  
Philadelphia, PA 19111  
Phone: 215/728-2865  
FAX: 215/728-3616

**David Granholm B.A.**

South Dakota State University  
Dept. of Biology & Microbiology  
Box 2140D, NPB 252  
Brookings, SD 57007  
Phone: 605/688-4554

FAX: 605/688-5624

**Nels H. Granholm Ph.D.**

South Dakota State University  
Dept. of Biology & Microbiology  
Box 2140D  
Brookings, SD 57007  
Phone: 605/688-4554  
FAX: 605/688-6065

**Herbert F. Haberman M.D.**

Toronto Western Hospital  
399 Bathurst Street  
Toronto, ONT M5T 2S8, Canada  
Phone: 416/369-5952  
FAX: 416/489-2960

**Mac E. Hadley Ph.D.**

University of Arizona - Anatomy  
College of Medicine  
Tucson, AZ 85724  
Phone: 602/621-3414  
FAX: 602/621-9339

**Ruth Halaban Ph.D.**

Yale Medical School  
Department of Dermatology  
New Haven, CT 06520-8059  
Phone: 203/785-4352  
FAX: 203/785-7234  
Email: halaban@biomed.med.yale.edu

**Rebat M. Halder M.D.**

Howard University  
Department of Dermatology  
2041 Georgia Avenue, NW  
Washington, DC 20060  
Phone: 202/865-6725  
FAX: 202/865-1757

**Seung-Kyung Hann M.D.**

Yonsei University College of Medicine  
Department of Dermatology  
CPO Box 8044  
Seoul, Korea  
Phone: 82-2/361-5720  
FAX: 82-2/393-9157

**Elizabeth D. Hearing M.S.**

Data Abstract Search Service  
2247 Regina Drive  
Clarksburg, MD 20871  
Phone: 301/831-6279  
FAX: 301/865-1180

**Vincent J. Hearing Ph.D.**

NCI - NIH - Cell Biology  
Building 37, Room 1B22  
Bethesda, MD 20892  
Phone: 301/496-1564  
FAX: 301/402-8787  
E-mail: hearingv@dc37a.nci.nih.gov

**Meenhard Herlyn DVM**

The Wistar Institute  
Program of Cellular and Molecular Biology  
3601 Spruce Street  
Philadelphia, PA 19104  
Phone: 215/898-3950  
FAX: 215/898-0980  
E-mail: herlynm@wista.wistar.upenn.edu

**George Hill M.D., Ph.D.**

UMDNJ - New Jersey Medical School  
185 South Orange Avenue  
Room G595  
Newark, NJ 07103  
Phone: 201/456-6295  
FAX: 201/456-4559

**Helene Z. Hill Ph.D.**

New Jersey Medical School  
Dept of Radiology - MSB E586  
185 South Orange Avenue  
Newark, NJ 07103-2714  
Phone: 201/982-3421  
FAX: 201/982-4559  
E-Mail: hill@umdnj.edu

**Robert M. Hoffman Ph.D.**

AntiCancer, Inc.  
7919 Ostrow Street  
San Diego, CA 92111  
Phone: 619/654-2555  
FAX: 619/268-4175

**Thomas J. Holstein Ph.D.**

Roger Williams University  
Department of Biology  
Old Ferry Road  
Bristol, RI 02809  
Phone: 401/254-3097  
FAX: 401/254-3480  
E-mail: tholstein@acc.rwu.edu

**Alan N. Houghton M.D.**

Memorial Sloan-Kettering Cancer Center  
Dept of Medicine & Immunology  
1275 York Avenue  
New York, NY 10021  
Phone: 212/639-7595

FAX: 212/717-3036

**Sungbin Im M.D.**

University of Cincinnati  
Department of Dermatology  
231 Bethesda Ave.  
Cincinnati, OH 45267-0592  
Phone: 513/558-6242  
FAX: 513/558-0198

**Shosuke Ito Ph.D.**

Fujita Health University  
School of Health Sciences  
Toyoake, Aichi 470-11 Japan  
Phone: 81-562/93-2595  
FAX: 81-562/93-4595

**Gert M. Jacobsohn Ph.D.**

Hahnemann University  
Department of Biological Chemistry  
Broad & Vine Streets  
Philadelphia, PA 19102-1192  
Phone: 215/762-7760  
FAX: 215/246-5836  
E-Mail: jacobsohng@hal.hahnemann.edu

**Kowichi K. Jimbow, M.D., Ph.D.**

University of Alberta  
260G Heritage Medical Research Center  
Edmonton, AB T6G 2S2, Canada  
Phone: 403/492-2425  
FAX: 403/492-7715

**Koichiro Kameyama, M.D., Ph.D.**

Jiyugaoka Clinic  
3-12-10 Yakumo, Park Villa 2F  
Meguro, Tokyo 152, Japan  
Phone: 81-3/5701-2500  
FAX: 81-3/5701-2633

**Soverin Karmiol Ph.D.**

Clonetics Corporation  
Department of Research and Development  
9620 Chesapeake Drive, Suite 201  
San Diego, CA 92123  
Phone: 619/541-0086  
FAX: 619/541-0823

**John A. Kenney, Jr., M.D.**

Howard University  
1442 Iris Street, NW  
Washington, DC 20012  
Phone: 202/882-2477 (home)  
FAX: 202/865-1757

**Sang Tae Kim M.D.**

Kosin Medical College  
Department of Dermatology  
34 Amnam-dong  
Pusan, 602-702 South Korea  
Phone: 82-51/240-6255  
FAX: 82-51/255-8672

**Victoria Kimler Ph.D.**

The Chicago Medical School  
Dept. of Cell Biology & Anatomy  
333 Green Bay Road  
North Chicago, IL  
Phone: 708/578-3211  
FAX: 708/578-3253

**Richard A. King M.D., Ph.D.**

University of Minnesota  
Box 485 UMHC  
420 Delaware Street, S.E.  
Minneapolis, MN 55455  
Phone: 612/624-0144  
FAX: 612/624-6645  
E-Mail: kingx002@maroon.tc.umn.edu

**W. Gerald Klingler M.D.**

543 West Miller, Suite 100  
Springfield, IL 62702  
Phone: 217/744-2000  
FAX: 217/744-2004

**Takeshi Kobayashi M.S.**

Kao Corporation  
Institute for Fundamental Research  
606, Akabane, Ichikaimachi  
Mitsuba, Tochigi, 321-34, Japan  
Phone: 81-285/68-7468  
FAX: 81-285/68-7469

**Gregory J. Kramer Ph.D.**

Procter and Gamble Company  
P.O. Box 538707  
Cincinnati, OH 45253  
Phone: 513/627-1310  
FAX: 513/627-0575

**Byoung S. Kwon Ph.D.**

Indiana University  
Departments of Microbiol & Immunology  
635 Barnhill Drive-MS 255  
Indianapolis, IN 46202-5120  
Phone: 317-274-3965  
FAX: 317/274-4090  
E-Mail: ilvu100@IndyCMS

**M. Lynn Lamoreux Ph.D.**

Texas A & M University  
Department of Pathobiology  
College Station, TX 77843  
Phone: 409/845-6084  
FAX: 409/845-9972  
E-mail: llamoreux@vetmed.tamu.edu

**Maria T. Lamy-Freund Ph.D.**

Universidade de Sao Paulo  
Instituto De Fisica  
Caixa Postal 20 516  
Sao Paulo, SP CEP 01452-990, Brazil  
Phone: 55-11/818-6829  
FAX: 55-11/818-6701  
Email: mtfreund@if.usp.ansp.br

**Isabelle C. Le Poole C. Ph.D.**

AMC/ Amsterdam University  
Department of Dermatology & Pathology  
Meibergdreef g  
1105 AZ Amsterdam, The Netherlands  
Phone: 31-20/566-5727  
FAX: 31-20/696-0389

**Aaron B. Lerner M.D., Ph.D.**

Yale Medical School  
Department of Dermatology  
333 Cedar Street, PO Box 3333  
New Haven, CT 06510-8059  
Phone: 203/785-5114  
FAX: 203/785-7234  
E-mail: aaron\_lerner@qm.yale.edu

**Norman Levine M.D.**

University of Arizona  
Department of Dermatology  
1501 N. Campbell Avenue  
Tucson, AZ 85724  
Phone: 602/626-7783  
FAX: 602/626-4299

**Kenneth A. Mason Ph.D.**

University of Kansas  
Department of Biochemistry  
Lawrence, KS 66045  
Phone: 913/864-4279  
FAX: 913/864-5321

**Katsuo Matsumoto B.S.**

POLA Laboratories  
560 Kashio-Cho, Tozuka-Ku  
Yokohama, 244, Japan  
Phone: 45/826-7231  
FAX: 45/826-7249

**John A. McLane Ph.D.**

Hoffman-La Roche Inc.  
340 Kingsland Street  
Nutley, NJ 07110-1199  
Phone: 201/235-3537  
FAX: 201/235-7010

**David I. McLean M.D.**

University of British Columbia  
Department of Dermatology  
855 W. 10th Avenue  
Vancouver, BC V5Z 1L7, Canada  
Phone: 604/875-4747  
FAX: 604/873-9919

**Julian M. Menter Ph.D.**

Morehouse School of Medicine  
Dept of Medicine & Dermatology  
720 Westview Drive S.W.  
Atlanta, GA 30310  
Phone: 404/752-1697  
FAX: 404/752-8443

**Frank L. Meyskens, Jr., M.D.**

Univ. of California - Cancer Ctr.  
101 City Drive  
Orange, CA 92668  
Phone: 714/456-6310  
FAX: 714/456-5039

**Nadine C. Milos Ph.D.**

University of Alberta  
Department of Oral Biology  
Dentistry - Pharmacy Centre  
Edmonton, AB T6G 2M8, Canada  
Phone: 403/492-4958  
FAX: 403/492-1624

**Beatrice Mintz Ph.D.**

Fox Chase Cancer Center  
Institute for Cancer Research  
7701 Burholme Avenue  
Philadelphia, PA 19111  
Phone: 215/728-2479  
FAX: 215/728-3574

**Yutaka Mishima M.D., Ph.D.**

Mishima Inst for Dermatological Research  
17-8-801, 3-Chome  
Motomachi-dori, Chuo-Ku  
Kobe 650, Japan  
Phone: 81-78/334-1663  
FAX: 81-78/334-1660

**Gisela E. Moellmann Ph.D.**

Yale University School of Medicine  
Dermatology LLCI-500  
P.O. Box 208059  
New Haven, CT 06520-8059  
Phone: 203/785-5366  
FAX: 203/785-7637  
E-mail: jack-schreiber@quickmail.yale.edu

**Kenji Mori**

Kanebo, Ltd.  
Department of Cosmetics  
693 Fifth Avenue, 17th Floor  
New York, NY 10022  
Phone: 212/244-1506  
FAX: 212/563-4064

**Randall L. Morrison Ph.D.**

Hood College  
Department of Biology  
401 Rosemont Avenue  
Frederick, MD 21701  
Phone: 301/696-3659  
FAX: 301/694-7653  
E-mail: rmorrison@nimue.hood.edu

**Bryan P. Murphy Ph.D.**

Ciariol Research & Development labs  
Exploratory Development  
2 Blachley Road  
Stamford, CT 06922  
Phone: 203/357-5025  
FAX: 203/348-3267

**Anthony J. Nappi Ph.D.**

Loyola University of Chicago  
Department of Biology  
6525 North Sheridan Road  
Chicago, IL 60626  
Phone: 312/508-3632  
FAX: 312/508-3648  
E-mail: anappi@orion.it.luc.edu

**John C. Naughten Ph.D.**

Northern State University  
12th and Jay Streets  
Aberdeen, SD 57401-7198  
Phone: 605/622-2456  
FAX: 605/622-3022

**J. Michael Newton B.S.**

University of Arizona  
Department of Anatomy  
College of Medicine  
Tucson, AZ 85724  
Phone: 602/621-7516



FAX: 602/621-9339

**Robert Nicholls Ph.D.**

Case Western Reserve University  
Department of Genetics  
10900 Euclid Avenue  
Cleveland, OH 44106  
Phone: 216/368-3331  
FAX: 216/368-3432

**Richard M. Niles Ph.D.**

Marshall Univ School of Medicine  
Dept of Biochemistry & Molecular Biology  
1542 Spring Valley Drive  
Huntington, WV 25755  
Phone: 304/696-7323  
FAX: 304/696-7253

**James J. Nordlund M.D.**

University of Cincinnati  
Department of Dermatology  
231 Bethesda Avenue, Mail #592  
Cincinnati, OH 45267-0592  
Phone: 513/558-6242  
FAX: 513/558-0198  
Email: nordlujj@uc.eduexternal

**David A. Norris M.D.**

Department of Dermatology  
University of Colorado Medical Center  
4200 East 9th Avenue  
Denver, CO 80262  
Phone: 303/372-1142  
FAX: 303/372-1159

**William S. Oetting Ph.D.**

University of Minnesota  
Box 485 UMHC  
420 Delaware Street S.E.  
Minneapolis, MN 55455  
Phone: 612/624-1139  
FAX: 612/624-6645  
E-Mail: bill@lenti.med.umn.edu

**Seth J. Orlow M.D., Ph.D.**

NYU Medical Center  
Department of Dermatology  
550 First Avenue, RM H-100  
New York, NY 10016  
Phone: 212/263-5070  
FAX: 212/263-8752

**Jean Paul Ortonne M.D.**

Hopital Pasteur  
B.P. 69  
06002 Nice Cedex 1, France  
Phone: 33-92/03-77-12  
FAX: 33-92/03-84-43

**David M. Parichy B.A.**

University of California at Davis  
Section of Evolution and Ecology  
The Center for Population Biology  
Davis, CA 95616  
Phone: 916/752-3634  
FAX: 916/752-1449  
Email: dmparichy@ucdavis.edu

**Madhu A. Pathak M.B., Ph.D.**

Harvard Medical School - Derm.  
Mass. General Hospital  
Fruit Street, Warren 516  
Boston, MA 02114  
Phone: 617/726-3996  
FAX: 617/726-1875

**William J. Pavan Ph.D.**

National Institutes of Health  
Nat'l Center for Human Genome Research  
LGDR, Building 49, Room 4A82  
Bethesda, MD 20892  
Phone: 301/402-2036  
FAX: 301/402-2170

**John M. Pawelek Ph.D.**

Yale Medical School  
Department of Dermatology  
333 Cedar Street  
New Haven, CT 06510  
Phone: 203/785-4963  
FAX: 203/785-7637

**Sreekumar Pillai M.S.**

University of Massachusetts, Amherst  
Department of Veterinary & Animal  
Sciences  
#307 Stockbridge Hall  
Amherst, MA 01003  
Phone: 413/545-2137

**Seymour H. Pomerantz Ph.D.**

5717 Ridgedale Road  
Baltimore, MD 21209  
Phone: 410/367-7281

**Susan Porter Ph.D.**

Dept of Pathology & Laboratory Medicine  
University of British Columbia  
2211 Westbrook Mall  
Vancouver, Brit Columbia V6T 2B5 Canada  
Phone: 604/833-7096  
FAX: 604/822-7635  
Eml:  
susan\_porter@academic.pathology.ubc.can

**Brian Potterf M.S.**

National Institutes of Health, NCI  
Laboratory of Cell Biology  
Building 37, Room 1B22  
Bethesda, MD 20892  
Phone: 301/402-0003  
FAX: 301/402-8787

**Neelu Puri Ph.D.**

Wistar Institute  
3601 Spruce Street  
Philadelphia, PA 19104-4268  
Phone: 215/898-3950  
FAX: 215/898-0980

**Walter C. Quevedo, Jr., Ph.D.**

Brown University  
Division of Biology & Medicine  
Providence, RI 02912  
Phone: 401/863-2758  
FAX: 401/863-1971

**Arthur R. Rhodes M.D., M.P.H.**

University of Pittsburgh Medical Center  
Department of Dermatology  
3601 Fifth Avenue  
Pittsburgh, PA 15213  
Phone: 412/648-3266  
FAX: 412/648-8117

**Manuel Rieber Ph.D.**

I.V.I.C. (Tumor Cell Biology)  
BAMCO CCS-199-00  
P.O. Box 025322  
Miami, FL 3102-5322  
Phone: 582/501-1494  
FAX: 582/501-1382

**Mark D. Rollag Ph.D.**

Uniformed Services University  
Department of Anatomy  
4301 Jones Bridge Road  
Bethesda, MD 20814-4799  
Phone: 301/295-3212  
FAX: 301/295-1715  
E-Mail: rollag@usuhs.usuhs.mil

**Susana Rosemblat M.D.**

New York University Medical Center  
Department of Dermatology  
562 First Avenue, Room H-313  
New York, NY 10016  
Phone: 212/263-5070  
FAX: 212/263-8752

**Stefan Schmitz M.D.**

Free University of Berlin  
Department of Dermatology  
Clinical Medical Centre Steglitz  
Hindenburgdamm 30  
12200 Berlin, Germany  
Phone: 49-30/378-2770  
FAX: 49-30/789-4141

**Thomas M. Schultz Ph.D.**

Zotos Corporation  
100 Tokeneke Road  
Darien, CT 06820  
Phone: 203/656-7790  
FAX: 203/656-7794

**Ian R. Scott Ph.D.**

Unilever Research U.S.  
45 River Road  
Edgewater, NJ 07020  
Phone: 201/963-7100 ext. 2919  
FAX: 201/963-5332

**Wade C. Sherbrooke Ph.D.**

American Museum of Natural History  
Southwestern Research Station  
Portal, AZ 85632  
Phone: 602/558-2396  
FAX: 602/558-2396

**Willys K. Silvers Ph.D.**

University of Pennsylvania  
School of Medicine  
Department of Genetics  
Philadelphia, PA 19104-6145  
Phone: 215/898-5174  
FAX: 215/573-5892

**Andrzej T. Slominski M.D., Ph.D.**

Albany Medical College  
Dept. of Pathology & Laboratory Medicine  
47 New Scotland Avenue  
Albany, NY 12208  
Phone: 518/262-5454  
FAX: 518/262-3663

**J. Robert Smyth, Jr., Ph.D.**

University of Massachusetts  
Dept. of Veterinary & Animal Science  
307A Stockbridge Hall  
Amherst, MA 01003  
Phone: 413/545-2137  
FAX: 413/545-6326  
E-Mail: wgraves@coopest.umass.edu

**Arthur J. Sober M.D.**

Massachusetts General Hospital  
Department of Dermatology  
Boston, MA 02114  
Phone: 617/726-7989  
FAX: 617/724-2745

**Dennis Stephenson Ph.D.**

University College London  
Department of Genetics and Biometry  
4 Stephenson Way  
London NW1 2HE United Kingdom  
Phone: 44-71/380-7423  
FAX: 44-71/387-3496

**Manickam Sugumaran Ph.D.**

University of Massachusetts at Boston  
Department of Biology  
100 Marrissey Boulevard  
Boston, MA 02125  
Phone: 617/287-6600  
FAX: 617/287-6650

**Itaru Suzuki M.S.**

University of Cincinnati  
Department of Dermatology  
231 Bethesda Avenue  
Cincinnati, OH 45267-0592  
Phone: 513/558-6242  
FAX: 513/558-0198

**Richard T. Swank Ph.D.**

Roswell Park Cancer Institute  
Department of Molecular & Cell Biology  
Elm and Carlton Streets  
Buffalo, NY 14263  
Phone: 716/845-3429  
FAX: 716/845-8169  
E-mail: rswank@mcbio.med.buffalo.edu

**Harold M. Swartz M.D., Ph.D.**

Dartmouth Medical School  
HB 7252 Strassenburgh Hall  
Hanover, NH 03756  
Phone: 603/650-1955  
FAX: 603/650-1935  
E-Mail: harold.swartz@dartmouth.edu

**Masayoshi Tachibana M.D., Ph.D.**

National Institute of Deafness  
& Other Communication Disorders  
Laboratory of Molecular Genetics  
Section of Gene Expression and Function  
Bethesda, MD 20892

Phone: 301/496-2583

FAX: 301/480-3242

**John D. Taylor Ph.D.**

Wayne State University  
Dept. of Biological Sciences & Rad  
Oncology  
Detroit, MI 48202  
Phone: 313/577-2877  
FAX: 313/577-0798

**Masayuki Tejima M.Sc.**

Shiseido America Technocenter  
100 Tokeneke Road  
Darien, CT 06820  
Phone: 203/656-7999  
FAX: 203/656-7995

**Giselle Thibaudeau Ph.D.**

Mississippi State University  
Department of Biological Sciences  
Harned Hall  
Mississippi State, MS 39762  
Phone: 601/325-7572  
FAX: 601/325-7939  
E-Mail: Giselle@ra.msstate.edu

**Kenneth J. Tomecki M.D.**

Cleveland Clinic Foundation  
Department of Dermatology - A61  
9500 Euclid Avenue  
Cleveland, Ohio 44195  
Phone: 216/444-2651  
FAX: 216/445-6365

**Jeffrey M. Tosk Ph.D.**

Jerry L. Pettis Memorial VA Med Center  
Parkinson's Research Center  
Research Service 151  
Loma Linda, CA 92357  
Phone: 909/825-7084 ext 2707  
FAX: 909/796-4508

**DeWayne Townsend Ph.D.**

University of Minnesota  
Box 485 UMHC  
420 Delaware Street S.E  
Minneapolis, MN 55455  
Phone: 612/625-7467  
FAX: 612/624-6645  
Email: d-town@maroon.tc.umn.edu

**Ronald Trancik Ph.D.**

Upjohn Company  
Department of Clinical Dermatology  
7000 Portage Road, 9157-298-224  
Kalamazoo, MI 49001

Phone: 616/329-8459  
FAX: 616-328-5291

**Ram K. Tripathi Ph.D.**

University of Cincinnati  
Department of Dermatology, Mail #592  
231 Bethesda Avenue  
Cincinnati, OH 45267-0592  
Phone: 513-558-6242  
FAX: 513-558-0198

**Maria C. Tuma**

Indiana University Medical Center  
Department of Anatomy  
635 Barnhill Drive  
Indianapolis, IN 46202-5120  
Phone: 317/274-7326  
FAX: 317/274-7434  
E-Mail: tuma@anatomy.iupui.edu

**Kazunori Urabe, M.D., Ph.D.**

Kyushu University  
Faculty of Medicine  
Department of Dermatology  
3-1-1 Maidashi, Higashi-ku  
Fukuoka 812, Japan  
Phone: 81-92/641-1151  
FAX: 81-92/651-6210

**Setaluri Vijayasaradhi Ph.D.**

Rockefeller University  
Laboratory of Investigative Dermatology  
Box H-30, 1230 York Avenue  
New York, NY 10021  
Phone: 212/ 327-8047  
FAX: 212/ 327-8232  
E-mail: setaluv@rockvax.rockefeller.edu

**Maria A. Visconti**

Univ. de Sao Paulo-Biociências  
R. Do Matao - Travessa 14  
Cidade Universitaria CP 11176.  
Sao Paulo, SP 05422-970 , Brazil  
Phone: 55-11/818-7523  
FAX: 55-11/817-7422  
E-Mail: maviscon@cce.usp.br

**Michael M. Wick M.D., Ph.D.**

1180 Beacon Street, Suite 6A  
Brookline, MA 02146  
Phone: 617/232-2637  
FAX: 617/735-9068

**Leon M. Wilkins Ph.D.**

Transkaryotic Therapies  
195 Albany Street

Cambridge, MA 02139  
Phone: 617/349-0200  
FAX: 617/491-7903

**Loren Wipf B.S.**

South Dakota State University  
Department of Biology and Microbiology  
SDSU Ag Hall 327  
Brookings, SD 57007  
Phone: 605/688-4554  
FAX: 605/688-5624

**George L. Wolff Ph.D.**

National Center for Toxicological Research  
Division of Nutritional Toxicology  
3900 NCTR Road  
Jefferson, AR 72079-9590  
Phone: 501/543-7522  
FAX: 501/543-7635  
E-mail: gwolff@fdant.nctr.fda.gov

**Joseph J. Yohn M.D.**

University of Colorado  
Department of Dermatology  
B153, 4200 East Ninth Avenue  
Denver, CO 80262  
Phone: 303/270-7136  
FAX: 303/270-8272

**Shimatani Youichi**

Shiseido Company Ltd.  
R & D Planning Division  
R & D Headquarters  
7-5-5 Ginza, Chuo-ku  
Tokyo 104-10 JAPAN  
Phone: 81-3/3571-9477  
FAX: 81-3/3572-2675

**Lisa Zeise Ph.D.**

MEL-CO  
4255 Count Road MM  
Orland, CA 95963  
Phone: 916/865-9033  
FAX: 916/865-4092

**Huiquan Zhao Ph.D.**

University of Cincinnati  
Department of Dermatology  
231 Bethesda Avenue  
Cincinnati, OH 45267  
Phone: 513/558-6242  
FAX: 513/558-0198

**Shuangwen Zhou Ph.D., M.D.**

UMDNJ-New Jersey Medical School  
Dept of Radiology, Cancer Biology Section  
185 South Orange Avenue, MSB 3586

Newark, NJ 07103-2714  
Phone: 201/984-3421